## **CATTLE EGRET**

## **Bubulcus** ibis

## naturalized, recently established non-breeding visitor, unknown status

*B.i. ibis* (naturalized, probable visitor) *B.i. coromandus* (vagrant)

A worldwide species, Cattle Egrets now inhabit the contiguous United States southward to northern South America, and the other continents east to the Philippine Is and Australia (Cramp and Simmons 1977, Marchant and Higgins 1990, AOU 1998). The nominate subspecies spread naturally from Africa to the north coast of South America in the late 1870s, then north through middle America reaching the United States at the time of World War II (Long 1981, Lever 1987). They have wandered widely into Canada and se. Alaska but they initially reached the Hawaiian Islands by deliberate introduction (Breese 1959, AOU 1998). It is probable (but not possible to determine) that dispersing nominate birds also reached the Hawaiian Islands naturally from North America. Cattle Egrets were found during and following the dispersal period throughout Micronesia (Pyle and Engbring 1987, Schipper 1985, E 64:17,23, Wiles 2005), on Wake (Jones 1995, Rauzon et al. 2008) and Johnston (25+ birds between 1966 and 2000) atolls, in the Phoenix and Line Is (Clapp 1968a), Clipperton I (Howell et al. 1993; up to 100) and between North America and the Hawaiian Islands over 2000 km from the North American coast in the central Pacific (20-30 birds total; PP observations and L. Spear, pers. comm.). Single Cattle Egrets have also come aboard passenger vessels 2,150 km ESE of Hawai'i I (8 Nov 1964) and between Honolulu and the Line Is. (early Nov 1979). Recent records of the Asian subspecies in the Northwestern Hawaiian Islands (see below), however, are undoubtedly of natural occurrence

The Hawaii Board of Agriculture and Forestry, with the support of cattle ranchers and the Hui Manu Society, imported young Cattle Egrets (*B.i. ibis*) from southern Florida in Jul-Aug 1959 to assist "in the battle to control house flies, horn flies, and other flies that damage hides and cause lower weight gains in cattle" (Breese 1959; *E* 20:33-34). They released groups of a dozen or so at selected ranches (2 each on O'ahu and Hawai'i and one each on Kaua'i, Moloka'i, and Maui) totaling 105 birds released at 7 sites, while 16 egrets remained at the Honolulu Zoo and were released in 1961 (Breese 1959; Swedberg 1967a; Berger 1972, 1981; *E* 20:33-34, 22:14-15, 23:4-5). Most birds remained near the release site initially but soon began dispersing. On O'ahu, for example, 4 Cattle Egrets were observed at the Kahuku mudflats 27 Sep1959 (*E* 20:36), well north of the nearest release site at Kualoa Ranch, and by 1960 they were observed nesting there (*E* 22:14-15). They continued to disperse from propagation sites (*E* 20:48, 23:15) and eventually established breeding and roosting colonies on all of the release islands (e.g., Shallenberger 1977, Byrd *et al.* 1980, Walker 1983, Paton *et al.* 1986), and have been recorded breeding on or as visitors to on all non-release islands as well.

By the early 1970s colonies of up to 1,500-2,000 breeding birds were reported from *O'ahu* (HAS 1975-1984, Berger 1972, 1981) and *Kaua'i* (HAS 1981-1984; *E* 37:64), where populations reached peaks in the early 1970s and around 1980, respectively (see data from <u>Christmas Bird Counts</u> from <u>Kapa'a</u>, <u>Lihue</u>, <u>Waipi'o</u>, and <u>Honolulu</u>). Major breeding colonies persisted at Crater Hill near Kilauea NWR (*E* 41:25-28) and along the Waimea River W of Hanapepe on Kaua'i; near Kahuku (*E* 21:39), near

He'eia, and in Pearl Harbor near Waipahu (Berger 1981) on O'ahu; formerly near Umipa'a (E 43:91-92) but now in mangroves near Pala'au on Moloka'i; near Kanaha Pond on Maui; and at Loko Waka Pond on Hawai'i I (Paton et al. 1986, Ohashi and Kimizuka 1988). In 1981 the statewide population was estimated at 30,000 birds (E 43:20). Beyond the islands where released, Cattle Egrets had reached Lana'i by July 1976 (E 37:43) and were regarded as common during the 2000s (not known to breed) and were first reported on Ni'ihau 20 Jan 1979 (9 birds on an aerial DOFAW Waterbird Survey, and 59 birds on a survey a year later) and were breeding there in potentially large colonies through the 1990-2000s. A small colony also became established on Lehua Islet off Ni'ihau, where 2 nests were first observed in Jun 2002 and 21 nests in May-Jun 2003 (VanderWerf et al. 2007). Attempts to eradicate this colony in 2007-2009 were initially unsuccessful, probably due to frequent infusion of birds from colonies on Ni'ihau. Although the first record for Kaho'olawe did not occur until the winter of 2003/2004 (2 birds), they surely visited this island in the 1970s during the period of dispersal throughout Hawaii. DOFAW Waterbird Surveys during 1980-2007 indicate cyclic statewide fluctuations, with peaks in 1986 (~1700 birds), 1997 (~2200), and 2004 (~1800), and low numbers in 1993 (~1000), 2002 (~1000), and 2006 (~800).

Although populations have shown declines in certain areas since initial population expansion (Table), Cattle Egrets were considered a pest through at least the 2000s, being a nest predator of Hawaiian Stilts and Hawaiian Coots, posing a hazard to aircraft, and taking prawns and shrimp from aquaculture farms (Kishinami 2001, Rauzon et al. 2004). Despite occasional eradication efforts near airports (E 43:19-20; Walker 1983, Paton et al. 1986, Ohashi and Kimizuka 1988), they have spread widely in the islands, becoming familiar sights at roadsides, open fields, marshes, and landfill dumps in daytime, and generally returning to colony sites at night. By the 2000s they were still considered common on Kaua'i, O'ahu, and Maui, and less so on the other Southeastern Islands (HAS 1989-2005), but appeared to be expanding on Hawai'i I in the late 2000s.

Wandering Cattle Egrets first appeared in the Northwestern Hawaiian Islands in 1967, and since the late 1970s have been recorded most frequently at Midway, Laysan, and French Frigate. At *Midway* single individuals appeared Oct 1978-May 1979 and Oct 1979-May 1980, then 5 together 3-21Oct 1983, then 1-2 birds nearly annually through Jan 2002 (e.g., HRBP 0057-0058, 0116, 1202, 1270-1271, 1397; published E 41:83 and AB 33:807; see also below). Later in 2002, 11-20 Cattle Egrets were observed 1 Sep (Klavitter and Vekasy 2008; NAB 57:134) and numbers thereafter increased steadily to 69 by Sep 2004. Breeding on Eastern I. was confirmed 27 Jul 2004 when 2 fledglings and 3 nests containing 3 chicks and an egg were found among nesting Great Frigatebirds and Red-footed Boobies, and up to 16 active nests were found at various times of the year through 2007 (Klavitter and Vekasy 2008). Due to their preying on the chicks of resident seabirds and the potential for aircraft strikes, eradication methods were employed between 2004 and 2007, resulting in five adults and no breeding by 31 Oct 2007 (Klavitter and Vekasy 2008), and one adult still present in Mar 2009. Specimens collected during this process were examined critically and determined to be of the nominate subspecies (see below), and thus likely originated from naturalized Southeastern Hawaiian Island populations (Klavitter and Vekasy 2008).

On *Laysan* 1-3 birds (1 group of 7 reported in Nov-Dec 1994) were reported for short periods in various years beginning in mid Jul 1977 (*E* 38:102) and through 2007,

usually foraging around Laysan Lake and roosting in the island's only trees, a small group of palms. At *French Frigate* a specimen collected on Tern I 20 Jun 1967 provides the earliest record of Cattle Egret for the Northwest Islands (USNM 497550; Amerson 1971). Beginning May-Oct 1977 (<u>HRBP</u> 1446; *E* 38:102), single Cattle Egrets were reported on Tern I repeatedly in most years (e.g., <u>HRBP</u> 0341-0342, 0591, 0985), with an occasional report of 2 birds in later years, through at least 2006. Single Cattle Egrets have also been seen at least once on *Kure* (30 Sep - 2 Oct 1997), twice on *Lisianski* (Jul 2004 and 8 May 2005, <u>HRBP</u> 5547), and 3 times on *Nihoa* in Jun 1980 (Conant 1983b), Jun 1981, and May 1986, these islands less frequently visited by observers.

Whether or not Cattle Egrets that reached the Northwestern Islands are of Hawaiian or continental origin is a matter for conjecture. Photographs of the majority of individuals (HRBP Page) as well as specimens collected on Midway (see above) show small size and bill size and thus appear to be of the nominate subspecies, and it has been presumed that vagrants to the Northwestern Islands originated from Southeastern Island colonies (Klavitter and Vekasy 2008). However, a bird observed and photographed (HRBP 1145-1147, 1265-1267) on Midway in Jun-Jul 1997 was larger and larger-billed than another Cattle Egret present at the same time (HRBP 1270-1271) and thought to have been an Intermediate Egret (Richardson 1999). It was later determined (AOU 2004) that this bird was of the Asian subspecies of Cattle Egret *B.i. coromandus*, in which case it can be considered a natural vagrant to the Hawaiian Islands. A Cattle Egret on Tern I, French Frigate 1-13 Nov 1980 (HRBP 0341-0342) also shows characters of *coromandus*.

Acronyms and Abbreviations

## Literature cited

Citation: Pyle, R.L., and P. Pyle. 2009. The Birds of the Hawaiian Islands: Occurrence, History, Distribution, and Status. B.P. Bishop Museum, Honolulu, HI, U.S.A. Version 1 (31 December 2009) http://hbs.bishopmuseum.org/birds/rlp-monograph/